AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, said method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure, and

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively.

2/ (original): A method according to claim 1, in which said proportion of a component in the mixture is calculated by the data-processing unit which is programmed to solve the thermodynamic state equations of said components.

3/ (original): A method according to claim 1, in which said proportion of a component in the mixture is determined by the data-processing unit which stores a data table in a memory, said data table containing a plurality of data items representative of various proportions of said component in correspondence with data items representative of various measurements of the pressure, of the temperature, and of the density of the gas mixture containing said component.

4/ (currently amended): ~~A method according to claim 1,~~ A method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, said method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure, and

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively,

~~in which~~ wherein the density is measured by means of a vibrating-blade sensor.

5/ (currently amended): ~~A method according to claim 1,~~ A method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, said method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure, and

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively,

~~in which~~ wherein the density is measured by means of a capacitor whose capacitance is a function of the permittivity of the gas mixture.

6/ (currently amended): ~~A method according to claim 1,~~ A method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, said method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure, and

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively,

~~in which~~ wherein the density is measured by means of an interferometer.

7/ (original): A method according to claim 2, in which the data-processing unit is a microcomputer.

8/ (original): A method according to claim 2, in which the data-processing unit is formed by microprocessors or microcontrollers.

9/ (original): Electrical switchgear provided with an enclosure containing a mixture of at least two dielectric gases under pressure, wherein the proportions of the dielectric gases in the mixture are determined by implementing a method according to claim 1.

10/ (currently amended): ~~Electrical switchgear according to claim 9,~~ Electrical switchgear provided with an enclosure containing a mixture of at least two dielectric gases under pressure,

wherein the proportions of the dielectric gases in the mixture are determined by implementing a method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure, and

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively,

~~in which~~ wherein the gas mixture is made up of two components constituted by N_2 and SF_6 or by CF_4 and SF_6.

11. (currently amended): ~~A method according to claim 1,~~ A method of monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, said method comprising:

measuring the pressure, the temperature, and the density of the gas mixture using at least one sensor mounted on said enclosure,

determining said proportion by processing the measured values in a data-processing unit, so as to enable the mixture to be monitored non-intrusively; and

~~further comprising~~ running algorithms in the data-processing unit for correcting errors and drift specific to said at least one sensor.

12. (previously presented): A system for monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, comprising:

at least one sensor mounted on said enclosure for measuring the pressure, the temperature, and the density of the gas mixture; and

a data processing unit for processing the measured values, so as to enable the mixture to be monitored non-intrusively.

13. (previously presented): A system for monitoring a proportion of a component in a gaseous mixture having at least two components and contained in an electrical switchgear enclosure, comprising:

first means mounted on said enclosure for measuring the pressure, the temperature, and the density of the gas mixture; and

second means for processing the measured values, so as to enable the mixture to be monitored non-intrusively.